Applicants: Fischer, et al.
Serial No. 10/587,326
Filing Date: June 4, 2007
For: METHOD FOR IDENTIFYING AND PRODUCING EFFECTORS OF CALMODULIN-DEPENDENT
PEPTIDYL-PROLYL CIS/TRANS ISOMERASES

Examiner: Shen, Bin
Group Art: 1657
Docket No. VOS0068/US

IN THE SPECIFICATION

Please amend the specification at the following locations of the specification.

Please replace the paragraph beginning at page 18, line 35 – page 19 line 7, with the following paragraph:

In a further preferred embodiment, the CaMAPs of the method according to the invention are selected from the group consisting of human CaMAPs such as FKBP36 (SEQ ID NO: 5), FKBP37.7 (FKB8_HUMAN, SEQ ID NO: 6), ~~FKBP44,~~ FKBP51 (FKB5_HUMAN, SEQ ID NO: 7), FKBP52 (FKB4_HUMAN, SEQ ID NO: 8), and Cyp40 (CYP4_HUMAN, SEQ ID NO: 9), — which is accessible via the following URL: http://us.expasy.org/sprot/ —, corresponding to the denotation used in this database under FKBP66(SEQ ID NO: 10), FKBP42 (SEQ ID NO: 11), AIP_HUMAN (SEQ ID NO: 12), AIP_CERAE (SEQ ID NO: 13), AIP_MOUSE (SEQ ID NO: 14), AIPL1_HUMAN (SEQ ID NO: 15), ~~AILP1_RAT~~ AIPL1_RAT (SEQ ID NO: 16), ~~AILP1_MOUSE~~ AIPL1_MOUSE (SEQ ID NO: 17), ~~AILP1_RABIT, FKB8_HUMAN,~~ FKB8_MOUSE (SEQ ID NO: 18), ~~FKB5_HUMAN,~~ FKB5_MOUSE (SEQ ID NO: 19), ~~FKB4_HUMAN,~~ FKB4_MOUSE (SEQ ID NO: 20), FKB4_RABIT (SEQ ID NO: 21), FKB7_WHEAT (SEQ ID NO: 22), and CYP4_BOVIN (SEQ ID NO: 23)~~, and CYP4_HUMAN~~.

Please replace the paragraph beginning at page 19, line 9 – page 20, line 5, with the following paragraph:

In a further preferred embodiment, the calmodulin or the calmodulin fragment/derivative of the invention and accessible in the "Swiss-Prot" database under the denotation of this database, which is given below, is selected from the group consisting of:

CALM_ACHKL (P15094, SEQ ID NO: 24), CALM_BLAEM (Q9HFY6, SEQ ID NO: 25), CALM_CANAL (P23286, SEQ ID NO: 26), CALM_CAPAN (P93087, AAF65511, SEQ ID NO: 27), CALM_CHLRE (P04352, SEQ ID NO: 28), CALM_DICDI (P02599, SEQ ID NO: 29), CALM_DROME (P07181, AAO25039, AAM50750, SEQ ID NO: 30),

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CALM_ELEEL (P02594, SEQ ID NO: 31), CALM_EMENI (P19533, P60204, SEQ ID NO: 32), CALM_EUGGR (PI1118, SEQ ID NO: 33), CALM_FAGSY (Q39752, SEQ ID NO: 34), CALM_HELAN (P93 171, SEQ ID NO: 35), CALM_HORVU (P13565, P62162, SEQ ID NO: 36), CALM_HUMAN (P02593, P62158, AAP88918, AAP35501, AAP35464, AAC83174, AAD45181, AAH47523, Q96HK3, SEQ ID NO: 37), CALM_KLULA (O60041, SEQ ID NO: 38), ~~CALM_LYCES~~ CALM_SOLLC (P27161, (SEQ ID NO: 39), CALM_LYTPI (P05935, SEQ ID NO: 40), CALM_MAGGR (Q9UWF0, SEQ ID NO: 41), CALM_MAIZE (P41040, SEQ ID NO: 42), CALM_MALDO (P48976, SEQ ID NO: 43), CALM_MEDSA (P17928, SEQ ID NO: 44), CALM_METSE (P02596, Q95NR9, SEQ ID NO: 45), CALM_NEUCR (Q02052, P61859, SEQ ID NO: 41), CALM_ORYSA (P29612, SEQ ID NO: 36), CALM_PARTE (P07463, SEQ ID NO: 46), CALM_PATSP (P02595, SEQ ID NO: 47), CALM_PHYIN (P27165, SEQ ID NO: 48), CALM_PLAFA (P24044, SEQ ID NO: 49), CALM_PLECO (P11120, SEQ ID NO: 50), CALM_PNECA (P41041, SEQ ID NO: 51), CALM_PYUSP (P11121, SEQ ID NO: 52), CALM_SCHPO (P05933, SEQ ID NO: 53), CALM_SOLTU (PI3868, SEQ ID NO: 54), CALM_SPIOL (P04353, SEQ ID NO: 55), CALM_STIJA (P21251, SEQ ID NO: 56), CALM_STRPU (P05934, SEQ ID NO: 57), CALM_STYLE (P27166, SEQ ID NO: 58), CALM_TETPY (P02598, SEQ ID NO: 59), CALM_TETTH (Q05055, SEQ ID NO: 60), CALM_TRYBB (P04465, P69097, SEQ ID NO: 61), CALM_TRYCR (P18061, SEQ ID NO: 62), CALM_WHEAT (P04464, SEQ ID NO: 63), CALM_YEAST (P06787, SEQ ID NO: 64), ~~Q9UWF0, Q02052, P19533,~~ AAL89686 (SEQ ID NO: 32), ~~Q7M510,~~ Q96TN0 (SEQ ID NO: 65), ~~P27165,~~ AAG01043 (SEQ ID NO: 48), ~~P02593, Q7T3T2~~ (SEQ ID NO: 66), Q40302 (SEQ ID NO: 67), O02367 (SEQ ID NO: 68), ~~Q95NR9,~~ Q9UB37 (SEQ ID NO: 69), ~~AAH54805,~~ AAH54973 (SEQ ID NO: 37), AAL02363 (SEQ ID NO: 37), CALM_DANRE (AAH59427, AAH59500, AAH54600, AAH53150, ~~AAH50926,~~ AAH45298, AAH44434, SEQ ID NO: 37), ~~AAP88918, AAP35501, AAP35464,~~ BAC56543 (SEQ ID NO: 37), ~~AAC83174,~~ CALM_RAT (AAD55398, AAH58485, SEQ ID NO: 37), AAC63306 (SEQ ID NO: 37), ~~AAD45181,~~ CALM_MOUSE (AAH21347, BAC40168, BAB28631, BAB28319, BAB28116, BAB23462, ~~AAH58485,~~ AAH51444, Q9D6G4, SEQ ID NO: 37), ~~AAH47523, P07181,~~ Q7QGY7 (SEQ ID NO: 70), Q8STF0 (SEQ ID NO: 71), ~~AAO25039, AAM50750,~~ AAK61380 (SEQ ID NO: 30), BAB89360 (SEQ ID NO: 30), O94739 (SEQ ID NO: 72), ~~P02594,~~ Q9D6G4, O16305 (SEQ ID NO: 73), ~~Q96HK3, P11120,~~ O96102 (SEQ ID NO: 74), ~~P21251,~~ Q9U6D3 (SEQ ID NO: 75),

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Q8X187 (SEQ ID NO: 76), O93410 (SEQ ID NO: 77), AAR10240 (SEQ ID NO: 78), ~~P11121,~~ Q9XZP2 (SEQ ID NO: 79), Q42478 (SEQ ID NO: 80), AAQ01510 (SEQ ID NO: 30), ~~P17928, P93171,~~ O97341 (SEQ ID NO: 81), O96081 (SEQ ID NO: 82), AAD10244 (SEQ ID NO: 44), AAM81203 (SEQ ID NO: 44), AAA34238 (SEQ ID NO: 44), AAA34014 (SEQ ID NO: 44), AAA34013 (SEQ ID NO: 44), ~~P02596, P93087,~~ Q43699 (SEQ ID NO: 83), CAD20351 (SEQ ID NO: 27), BAB61916 (SEQ ID NO: 27), BAB61915 (SEQ ID NO: 27), ~~AAF65511, P02595,~~ P59220 (SEQ ID NO: 84), P27162 (SEQ ID NO: 84), Q93VL8 (SEQ ID NO: 85), Q39447 (SEQ ID NO: 86), Q94801 (SEQ ID NO: 87), AAQ63462 (SEQ ID NO: 88), AAQ63461 (SEQ ID NO: 88), AAM81202 (SEQ ID NO: 84), BAB61918 (SEQ ID NO: 84), BAB61917 (SEQ ID NO: 84), BAB61914 (SEQ ID NO: 84), BAB61913 (SEQ ID NO: 84), BAB61912 (SEQ ID NO: 84), BAB61911 (SEQ ID NO: 84), BAB61910 (SEQ ID NO: 84), BAB61909 (SEQ ID NO: 84), AAG27432 (SEQ ID NO: 84), AAG11418 (SEQ ID NO: 84),

wherein these sequences or sequences that are similarly appropriate can easily be found in biochemical databases - which are continuously updated and expanded with new entries - using sequence analysis programs, such as BLAST.

Please replace the paragraph beginning at page 36, line 4 - 8, with the following paragraph:

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Limiting the search algorithm to PPIases that are listed in the "Swiss-Prot" database, yields the following result for enzymes: AIP_HUMAN (SEQ ID NO: 12), AIP_CERAE (SEQ ID NO: 13), AIP_MOUSE (SEQ ID NO: 14), AIPL1_HUMAN (SEQ ID NO: 15), ~~AILP1_RAT~~ AIPL1_RAT (SEQ ID NO: 16), ~~AILP1_MOUSE~~ AIPL1_MOUSE (SEQ ID NO: 17), ~~AILP1_RABIT, FKB8_HUMAN,~~ FKB8_MOUSE (SEQ ID NO: 18), ~~FKB5_HUMAN,~~ FKB5_MOUSE (SEQ ID NO: 19), ~~FKB4_HUMAN,~~ FKB4_MOUSE (SEQ ID NO: 20), FKB4_RABIT (SEQ ID NO: 21), FKB7_WHEAT (SEQ ID NO: 22), and CYP4_BOVIN (SEQ ID NO: 23), ~~CYP4_HUMAN~~.

Please add the following new table beginning at page 41, line 34:

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Gene Name(s)	Accession Number(s)	AA Length	SEQ ID NO.:
Chemically synthesized cAMP substrate	-	4	1
Chemically synthesized cAMP substrate	-	5	2
Chemically synthesized cAMP substrate	-	6	3
Calmodulin sequence motif	-	16	4
FKBP36 FKBP6_HUMAN	O75344	327	5
FKB8_HUMAN FKBP8_HUMAN FKBP37.7	Q14318	412	6
FKBP51 FKB5_HUMAN FKBP5_HUMAN	Q13451	457	7
FKBP52 FKB4_HUMAN FKBP4_HUMAN	Q02790	459	8
Cyp40 CYP4_HUMAN PPID_HUMAN	Q08752	370	9
FKBP66	NP_001149790	553	10
FKBP42 FKB42_ARATH	Q9LDC0	365	11
AIP_HUMAN	O00170	330	12
AIP_CERAE	O97628	330	13
AIP_MOUSE	O08915	330	14
AIPL1_HUMAN	Q9NZN9	384	15
AIPL1_RAT	Q9JLG9	328	16
AIPL1_MOUSE	Q924K1	328	17
FKB8_MOUSE FKBP8_MOUSE	O35465	402	18
FKB5_MOUSE FKBP5_MOUSE	Q64378	456	19
FKB4_MOUSE FKBP4_MOUSE	P30416	458	20
FKB4_RABIT FKBP4_RABIT	P27124	458	21
FKB7_WHEAT FKB70_WHEAT	Q43207	559	22
CYP4_BOVIN PPID_BOVIN	P26882	370	23
CALM_ACHKL	P15094	149	24
CALM_BLAEM	Q9HFY6	149	25
CALM_CANAL	P23286	149	26
CALM_CAPAN	P93087 AAF65511	149	27

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CALM_CHLRE	P04352	163	28
CALM_DICDI	P02599	152	29
CALM_DROME	P62152 P07181 AAO25039 AAM50750	149	30
CALM_ELEEL	P02594	149	31
CALM_EMENI	P60204 P19533	149	32
CALM_EUGGR	P11118	149	33
CALM_FAGSY	Q39752	148	34
CALM_HELAN	P93171	149	35
CALM_HORVU	P62162 P13565	149	36
CALM_HUMAN	P62158 P02593 AAP88918 AAP35501 AAP35464 AAC83174 AAD45181 AAH47523 Q96HK3	149	37
CALM_KLULA	O60041	147	38
CALM_SOLLC CALM_LYCES	P27161	149	39
CALM_LYTPI	P05935	27	40
CALM_MAGGR	Q9UWF0	149	41
CALM_MAIZE	P41040	149	42
CALM_MALDO	P48976	149	43
CALM_MEDSA	P17928	149	44
CALM_METSE	Q95NR9 P02596	149	45
CALM_NEUCR	P61859 Q02052	149	41
CALM_ORYSA	P29612 A2WN93	149	36
CALM_PARTE	P07463	149	46
CALM_PATSP	P02595	149	47
CALM_PHYIN	P27165	149	48
CALM_PLAFA	P24044	149	49
CALM_PLECO	P11120	149	50
CALM_PNECA	P41041	151	51
CALM_PYUSP	P11121	149	52
CALM_SCHPO	P05933	150	53
CALM_SOLTU	P13868	149	54
CALM_SPIOL	P04353	149	55
CALM_STIJA	P21251	149	56
CALM_STRPU	P05934	80	57
CALM_STYLE	P27166	149	58
CALM_TETPY	P02598	149	59
CALM_TETTH	Q05055	13	60

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CALM_TRYBB	P69097	149	61
	P04465		
CALM_TRYCR	P18061	149	62
CALM_WHEAT	P04464	149	63
CALM_YEAST	P06787	147	64
Q71KR2_PARBR	Q71KR2	149	32
	AAL89686		
Q96TN0_GIBIN	Q96TN0	135	65
CALM_PYTSP	Q71UH5	149	48
	AAG01043		
CALM_EPIAK	Q7T3T2	149	66
CALM_MACPY	Q40302	149	67
CALM_CIOIN	O02367	149	68
CALM2_BRALA	Q9UB37	149	69
CALM_XENLA	P62155	149	37
	AAH54973		
CALM_SHEEP	Q6YNX6	149	37
	AAL02363		
CALM_DANRE	Q6P152	149	37
	AAH59427		
	AAH59500		
	AAH54600		
	AAH53150		
	AAH45298		
	AAH44434		
CALM_BOVIN	P62157	149	37
	BAC56543		
CALM_RAT	P62161	149	37
	AAD55398		
	AAH58485		
CALM_PERFV	Q71UH6	149	37
	AAC63306		
CALM_MOUSE	P62204	149	37
	AAH50926		
	AAH21347		
	BAC40168		
	BAB28631		
	BAB28319		
	BAB28116		
	BAB23462		
	AAH51444		
	Q9D6G4		
Q7QGY7_ANOGA	Q7QGY7	153	70
CALM_STRIE	Q8STF0	156	71
	P62145	149	30
CALM_APLCA	AAK61380		
Q76LB7_STRIE	Q76LB7	149	30
	BAB89360		
CALM_PLEOS	O94739	149	72
CALM_CAEEL	O16305	149	73

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CALM_PHYPO	O96102	149	74
CALM_MYXGL	Q9U6D3	149	75
CALM_PAXIN	Q8X187	149	76
O93410_CHICK	O93410	149	77
Q6XHG6_DROYA	Q6XHG6 AAR10240	146	78
CALM2_BRAFL	Q9XZP2	149	79
Q42478_SOLCO	Q42478	149	80
Q6WSU5_BRABE	Q6WSU5 AAQ01510	149	30
CALM_SUBDO	O97341	149	81
CALMB_HALRO	O96081	149	82
Q71V71_PHAVU	Q71V71 AAD10244	149	44
Q71JC5_MEDTR	Q71JC5 AAM81203	149	44
Q6LBC4_9FABA	Q6LEC4 AAA34238	149	44
Q6LEG8_SOYBN	Q6LEG8 AAA34014 AAA34013	149	44
Q43699_MAIZE	Q43699	149	83
Q710C9_BRAOL	Q710C9 CAD20351	149	27
Q76ME6_TOBAC	Q76ME6 BAB61916 BAB61915	149	27
CALM7_ARATH	P59220	149	84
CAL1_PETHY	P27162 P62199	149	84
Q93VL8_PHAVU	Q93VL8	149	85
Q39447_CAPAN	Q39447	149	86
Q94801_TOXGO	Q94801	146	87
Q6UQE4_DAUCA	Q6UQE4 AAQ63462	150	88
Q71JC6_MEDTR	Q71JC6 AAM81202	149	84
Q76MF3_TOBAC	Q76MF3 BAB61918 BAB61917 BAB61914 BAB61913 BAB61912 BAB61911 BAB61910 BAB61909	149	84
Q71SM1_ELAGV	Q71SM1 AAG27432	149	84
Q71SN1_PRUAV	Q71SN1 AAG11418	149	84

     At page 41, after the table, please provide the following sequence listing, beginning on a separate page.